AUTHOR TsETLIN, B.L., YaNOVA, L.P., SIBIRSKAYA, G.K., 20-2-40/64
REBINDER, P.A., Member of the Academy.

TITLE The properties of plastic masses filled with graphite and the effect produced by high filling.
(Svoystva napolnennykh grafitom plastmass i effekt vysokogo napolneniya - Russian)

PERIODICAL Doklady akademii nauk SSSR. 1957, Vol 114, Nr 1, pp 146-148 (U.S.S.R.)

ABSTRACT The properties of various materials can, as is known, be considerably improved by the introduction of active fillers. In the present case the effect produced by graphite as an active filler was investigated in connection with a number of systems. The mechanic strength, heat conductivity, and heat storage were investigated. The results obtained are shown by two drawings. Also the course of the lines showing the heat-storing capacity is understandable, which proves that at high temperatures the strengthening effect is more pronounced.
Technological research work carried out on the basis of this paper proved the correctness of the results obtained by the investigations. (with 2 drawings)

CARD 1/2

20-2-40/64

The properties of plastic masses filled with graphite and the effect produced by high filling.

ASSOCIATION: not given.
PRESENTED BY: -
SUBMITTED: -
AVAILABLE: Library of Congress.

CARD 2/2

5.4500(B)
5.3831

6859

SOV/81-59-20-73650

Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 20, p 548 (USSR)

AUTHORS: Tsetlin, B.L., Sibirskaya, G.K.

TITLE: The Effect of Ionizing Radiation on the Thermal-Mechanical Properties of Polyethylene

PERIODICAL: V sb.: Deystviye ioniziruyushchikh izlucheniy na neorgan. i organ. sistemy. Moscow, AS USSR, 1958, pp 344 - 353

ABSTRACT: Samples of polyethylene (I) of M-60 grade with a thickness of 1.2 mm, 50 and 30 mm in diameter, were subjected to irradiation in the air by electrons (dose intensity 1.7×10^{17}-1.1×10^{19} ev/cm^{3}sec, integral doses 3.0×10^{20}-1.6×10^{23} ev/cm^{3}sec) and by X-rays (dose intensity 1.2×10^{16} ev/cm^{3}sec; integral doses $\sim 10^{21}$ ev/cm^3). The curves of the dependence of the value of uniaxial compression and extension of the irradiated samples on the temperature have been obtained. At temperatures below T (melt) of non-irradiated I the shape of the curves did not change after irradiation. Above this temperature the irradiated sample passes into the highly-elastic state with a final module value proportional to the dose. The efficiency of the action of radiation on

Card 1/2

68550

SOV/81-59-20-73660

The Effect of Ionizing Radiation on the Thermal-Mechanical Properties of Polyethylene

the thermal-mechanical properties of I is determined by the value of the integral dose. The irradiation of I in vacuum has shown that oxygen at the given dose intensities does not affect the rate of radiation cross-linking of I, because it has no time for diffusing into the sample volume. With an increase in the dose the temperature increases, at which the sample of I breaks under the action of a certain load.

A. Litmanovich

Card 2/2

5.3831
5.4500(B)

68957
SOV/81-60-2-7085

Translation from: Referativnyy zhurnal. Khimiya, 1960, Nr 2, pp 546 - 547 (USSR)

AUTHORS: Tsetlin, B.L., Yanova, L.P., Sibirskaya, G.K., Korbut, V.M.

TITLE: The Effect of Ionizing Radiation on the Mechanical Properties of Polyvinylchloride and Its Masticated Products

PERIODICAL: V sb.: Deystviye ioniziruyushchik izlucheniy na neorgan. i organ. sistemy. Moscow, AS SSSR, 1958, pp 354 - 361

ABSTRACT: The effect was studied of highly-intensive X-ray radiation on the changes in the mechanical properties of industrial vinyplast (V) sheet and masticated (M) products on the base of polyvinylchloride containing dibutylphthalate in the quantity of 10 - 60 weight %. A dismountable X-ray tube with a cylindrical anode of the TRTs type serves as radiation source. In the case of the irradiation of V the doese intensity was $6 \cdot 10^{16}$ ev/cm^3 sec and the duration of the irradiation from 1 to 50 hours, and in the case of irradiation of M $1.8 \cdot 10^{17}$ ev/cm^3 sec and 5 hours, respectively. Samples for thermomechanical tests were prepared in the form of disks of 7 mm in diameter and with a thickness of 1 mm, the specific load for V was 10.2 kg/cm^2 and for M 0.8 kg/cm^2. The following

Card 1/2

SIBIRSKAYA, G. K.

4

43234

S/844/62/000/000/050/129
D287/D307

AUTHORS: Topchiyev, A. V., Vereshchinskiy, I. V., Glazunov, P. Ya., Glushnev, V. Ye., Polak, L. S., Ryabchikova, G. G., Sibirskaya, G. K., Timofeyev, V. D. and Chernyak, N. Ya.

TITLE: Thermal cracking of hydrocarbons induced by irradiation

SOURCE: Trudy II Vsesoyuznogo soveshchaniya po radiatsionnoy khimii. Ed. by L. S. Polak. Moscow, Izd-vo AN SSSR, 1962, 304-307

TEXT: The effect of irradiation on thermal cracking of heptane at thermal cracking temperatures was studied. The experiments were carried out in a countercurrent reactor, at constant throughput of the gas, using irradiation dosages of 7 x 10^{15} ev/sec/1 cm^3 heptane. The rate of formation of gaseous products during radiation-induced and ordinary thermal cracking at 400 - 600°C was influenced by the reaction temperature. At temperatures above 550°C the relationship between the yield of products obtained by radiation and those obtained by ordinary thermal cracking was in a 4:1 ratio and radia-

Card 1/2

S/844/62/000/000/050/129
D287/D307

Thermal cracking of ...

tion-induced processes could therefore be carried out at much lower temperatures (150 - 220°C) than ordinary thermal cracking processes (550 - 600°C). Activation energy requirements also compared favorably (21 kcal/mole as against ~60 kcal/mole for thermal cracking). The yield of gaseous and liquid unsaturated compounds increased sharply with temperature and reached ~15,000 mol/100 ev at ~600°C. At temperatures ~800°C the radiation yield became lower. The yield of unsaturated compounds increased sharply with temperature and reached 80% (as against 50 - 55% during ordinary thermal cracking). Optimum conditions for the above process were high dosage irradiation and short contact times. There are 3 figures.

ASSOCIATION: Institut neftekhimicheskogo sinteza, AN SSSR (Institute of Petrochemical Synthesis, AS USSR); Institut fizicheskoy khimii, AN SSSR (Institute of Physical Chemistry, AS USSR)

S/844/62/000/000/051/129
D287/D507

AUTHORS: Spitsyn, V. I., Vereshchinskiy, I. V., Glazunov, P. Ya., Ryabchikova, G. G. and Sibirskaya, G. K.

TITLE: High-temperature radiolysis of propane

SOURCE: Trudy II Vsesoyuznogo soveshchaniya po radiatsionnoy khimii. Ed. by L. S. Polak. Moscow, Izd-vo AN SSSR, 1962, 508-511

TEXT: Preliminary results are given of the effects of temperature on the radiolysis of propane-ethane mixtures. The purified propane-ethane mixture, prepared in the Institut ispol'zovaniya gazov AN USSR (Institute for the Utilization of Gases, AS UkrSSR), freed of CH_4, olefins and C_4 hydrocarbons, and containing 98% propane at normal pressure, was irradiated with an optimum dosage of a few units x 10^{15} ev/cm^{3}sec, the temperature being maintained with an accuracy of $\pm$ 4°C. The radiolysis products (up to C_6 hydrocarbons) were analyzed in a chromothermograph XT-2M (KhT-2M); the weight of

Card 1/2

the samples was 0.25 - 1 ml. The yields were found to increase slightly at 450°C and rapidly thereafter. Only temperatures of up to 600°C were investigated as thermal cracking occurs at higher temperatures (5% at 550°C, 46% at 600°C). Principal products obtained during radiolysis were: H_2, ethylene and propylene, but no CH_4 at 500°C; the CH_4 content increased rapidly at higher temperatures. At 600°C the following reaction products were obtained: 22% H_2, 29.5% CH_4, 48.5% C_2H_4 + C_3H_6 which is approximately the same the products obtained during thermal cracking at 550°C. Investigations on the relationship between the percentage composition of the composition and the time of irradiation at 500°C showed that the products are: H_2 (180 mol/100 ev), ethylene (100 mol/100 ev) and propylene (150 mol/100 ev). The activation energy for the formation of hydrogen, ethylene and propylene was calculated to be 16 kcal/mole, i.e. it is approximately equal to that required for thermal cracking. The radiolysis of propane-ethane mixtures proceeds by a chain reaction. There are 4 figures.

ASSOCIATION: Institut fizicheskoy khimii, AN SSSR (Institute of Physical Chemistry, AS USSR)

Card 2/2

RYABCHIKOVA, G.G.; SIBIRSKAYA, G.K.; GLAZUNOV, P.Ya.; GRACHEV, A.I.

Semiautomatic proportioning device for gas chromatography. Zav.lab. 29 no.2:243-244 '63. (MIRA 16:5)

1. Institut fizicheskoy khimii AN SSSR.
(Gas chromatography) (Proportioning equipment)

RYABCHIKOVA, G.G.; SIBIRSKAYA, G.K.; GLAZUNOV, P.Ya.; GRACHEV, A.I.

Apparatus for selecting gas samples during chromatographic analysis. Zav.lab. 29 no.2:244 '63. (MIRA 16:5)

1. Institut fizicheskoy khimii AN SSSR.
(Gas chromatography)

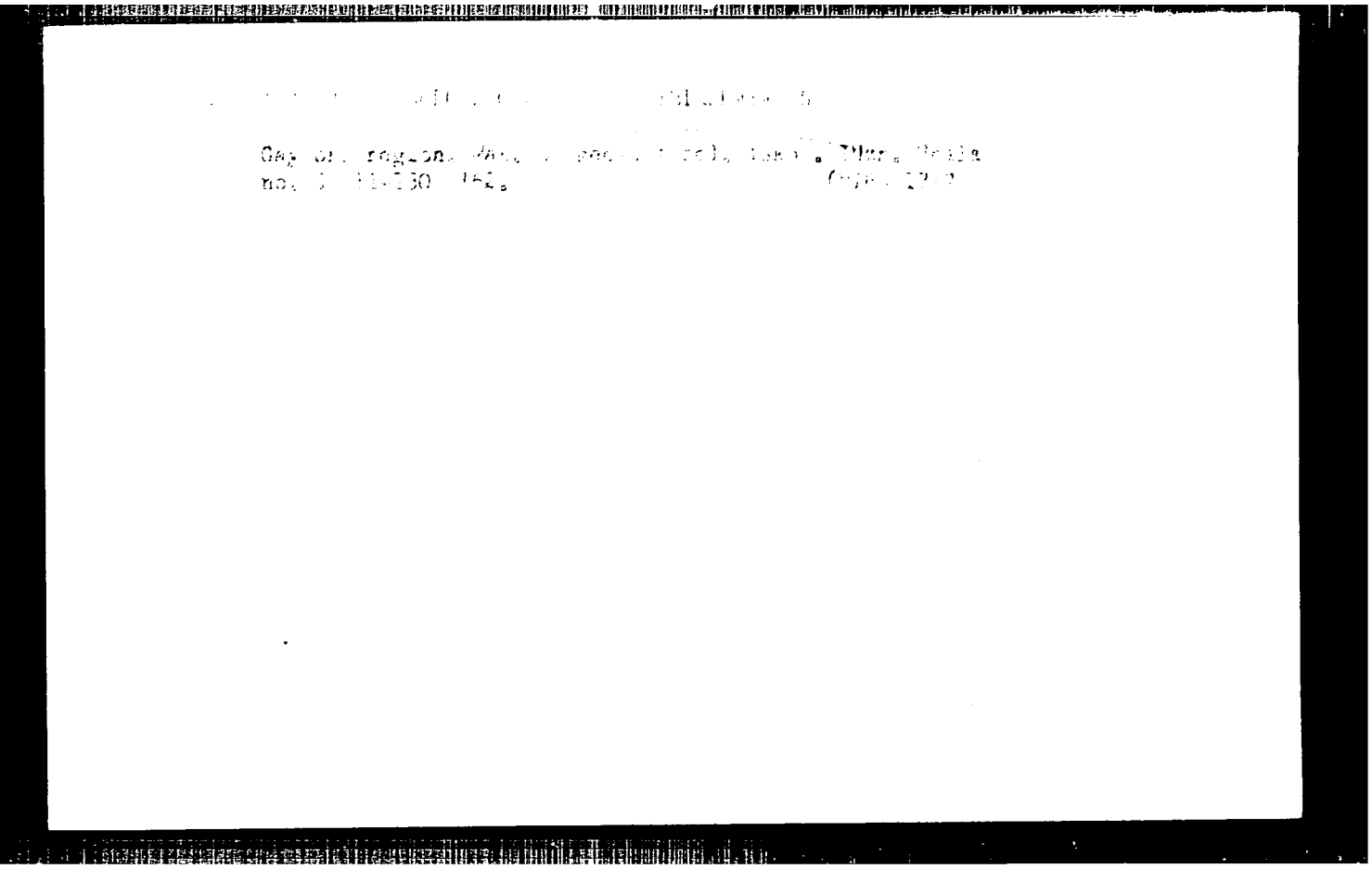
PIKAYEV, A.K.; SIBIRSKAYA, G.K.; RYABCHIKOVA, G.G.; GLAZUNOV, P.Ya.

Mechanism of hydrogen peroxide formation in a 0,4 M aqueous solution of sulfuric acid at high dose rate of absorption. Kin. i kat. 6 no.1:41-47 Ja-F '65. (MIRA 18:6)

1. Institut fizicheskoy khimii AN SSSR.

SKRIPIL', V.I.; NEDOZHOGIN, M.S.; SIBIRSKAYA, N.A.

Basic geological characteristics of the Gay copper pyrite deposit in the Southern Urals. Mat. po geol. i pol. iskop. IUzh. Urala no.2:81-93 '60. (MIRA 14:3)
(Ural Mountains—Geology)



Dissertation: "Scale Formation on Iron-Chromium Alloys at High Temperatures in a Steam Atmosphere." and Chem Sci, Leningrad State U, Leningrad, 1953. (Referativnyy Zhurnal--Khimiya, Moscow, 5 Apr 54)

SO: [illegible] 243, 19 Oct 1954

Sibirskaya, V. V.

Scale formation on chrome steels EZh1, EZh2, and EZh4 in air. V. V. Ipatova, M. P. Morozova, and V. V. Sibirskaya. *Uchenye Zapiski Leningrad. Gosudarst. Univ. No. 175, Ser. Khim. Nauk* No. 14, 89–116(1954).—Oxidation rates were observed at 810–1140° in steels EZh1, EZh2, and EZh4 contg., resp., Cr 12.05, 12.88, 12.64; C 0.15, 0.20, 0.45; Mn 0.41, 0.44, 0.19; Si 0.43, 0.28, 0.23; S 0.012, 0.009, 0.014; P 0.024, —, 0.025; Ni —, —, 0.16%, in O and air-steam mixts. In all cases, below 1000°, oxidation is characterized by an induction period of 5–80 hrs., the shorter induction periods occurring at the higher temp. and at the higher P_{H_2O}. During the induction period the wt. gain equals $K \log(at + 1)$, where t is time. During this time a film of R_2O_3 forms, higher in Cr than is the basis metal. After the induction period the wt. gain follows the parabolic law ($g^2 = Kt$). The post-induction period is characterized by Cr concn. in the oxidized layer closest to the metal, while Mn concentrates in the outer layer. The Fe in the Cr-rich layer occurs as magnetite and FeO. The Mn-rich layer contains primarily Fe_2O_3. For EZh1, K (mg.^{2} cm.$^{-4}$hrs.$^{-1}$) in the post-induction period varies from 0.28 at 870° to 14.9 at 1030°. As P_{H_2O} increases to 0.04 atm., K (at 850°) rises to 1.77. Further increase in P_{H_2O} to 0.20 atm. has no effect on K. For EZh2 in air, K is 0.84 at 880°, 17.2 at 1070°. For EZh4 in air, K is 0.75 at 870°, 17.6 at 1070°. C. H. Fuchsman

SIBERSKAYA, V. V.

The oxidation of 3% chrome molybdenum steel in water vapor and in air. V. V. Ipat'ev, V. V. Sibirskaya, M. G. Taubina, Yu. D. Red'ko, and V. I. Arkharov. *Uchenye Zapiski Leningrad. Gosudarst. Univ.* No. 175, *Ser. Khim. Nauk* No. 14, 155–6(1954).—The oxidation of steel (3.2% Cr, 0.2% C, 0.5% Mo) was studied in the temp. range 500–980°. FeO formation is negligible below 600° but becomes the most important component of the oxidized layer at $T > 800°$. Other oxidation products are Fe_3O_4 and R_2O_3 (chrome spinel). At low temps. the oxidation rate is $^1/_{10}$ that of Armco iron. At high temps. this difference disappears almost completely. Steam atm. cause a higher oxidation rate than does relatively dry air. C. H. Fuchsman

SIBIRSKAYA V. V.

PHASE I BOOK EXPLOITATION 545

Leningrad. Universitet

Skorost' okalinoobrazovaniya na metallakh i splavakh (Rate of Scale Formation in Metals and Alloys) Pt. 2. [Leningrad] 1957. 238 p. [Series]: (Its: Uchenyye zapiski, no. 227) [Series]: (Leningrad. Universitet. Khimicheskiy fakultet. Uchenyye zapiski. Seriya khimicheskikh nauk, vyp. 17) 2,150 copies printed.

Resp. Ed.: Tikhomirov, V. I.; Ed.: Shemeleva, Ye. V.; Tech. Ed.: Vodolagina, S. D.

PURPOSE: This collection of articles is intended for scientific workers, engineers and technicians interested in the problem of scale resistance of metals and alloys as well as in the more general problem of kinetics of heterogeneous processes.

COVERAGE: The collection is a continuation of a similar work published in 1954 by the same institution (Uchenyye zapiski LGU, No. 175, 1954). The articles describe experimental and theoretical work on the kinetics of oxidation of iron, manganese and nickel, and of alloys of iron and chromium, nickel and manganese, in various gaseous media. Individual articles are briefly reviewed under Table of Contents, below. No personalities are mentioned.

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TABLE OF CONTENTS:

Introduction

Ipat'yev, V. V. (Deceased) and Sibirskaya, V. V. 3

Kinetics of Scale Formation on Iron-chromium Alloys at Elevated Temperatures in Water Vapor. Structure and Composition of Scale 5

The authors try to establish a connection between the rate of oxidation of various iron-chromium alloys and the structure of the scale. Five grades of steel, containing 3, 6, 13, 16 and 30 percent chromium, were studied. The structure of the scale was studied with the aid of the micrographic method in conjunction with chemical and X-ray analyses. The temperature regime varied from 500° to 1300°C. Results of experiments with each type of steel are summarized at the end of the article. There are 21 references, 10 of which are Soviet, 8 English, and 3 German.

Ipat'yev, V. V. (Deceased), Ivanova, M. A. and Milyuts, G. B.

Scale Formation on 25 Percent Nickel Steel in Air Containing Water Vapor and Sulfur Dioxide 48

SOV/137-58-9-19479

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 191 (USSR)

AUTHORS: Ipat'yev, V.V., Sibirskaya, V.V.

TITLE: On the Kinetics of Scale Formation on Alloys of Iron With Chromium at High Temperatures in an Atmosphere of Water Vapor. Structure and Composition of the Scale Formed (K kinetike okalinoobrazovaniya na splavakh zheleza s khromom pri vysokikh temperaturakh v atmosfere vodyanogo para. Struktura i sostav obrazuyushcheysya okaliny)

PERIODICAL: Uch. zap. LGU, 1957, Nr 227, pp 5-47

ABSTRACT: The rate of oxidation (RO) of Fe-Cr alloys containing 3, 6, 13, 16, and 30% of Cr in an atmosphere of water vapor in the 500-1300°C range was investigated. The phase and chemical composition of the scale formed was studied. It is shown that the relationship of the constant of RO to the temperature is expressed by the equation: $\log_{10}K = E/4.575T + B$, where B is a constant, T is the absolute temperature and E is the apparent activation energy of the process. In the steady-state stage of the process of oxidation the relationship of the gain in weight of the specimen to time is satisfactorily described by a

Card 1/2

On the Kinetics of Scale Formation on Alloys of Iron (cont.)

parabolic equation. It is observed that with an increase of Cr content in the alloy RO decreases; the effect of Cr as an alloying additive on the RO of the Fe-Cr alloy decreases with an increase of temperature, with the exception of alloys with 30% Cr. It is shown that in alloys with 3, 6, and 13% Cr, in the abovestated conditions, the scale consists of three layers: An outer layer of Fe_3O_4, a middle layer of FeO and, an inner spinel layer ($FeO + FeO \cdot Cr_2O_3$), wherein during oxidation at constant temperature the ratio of the thickness of the layers in the scale remains the same; the relative thickness of FeO decreases with the decrease of temperature. Micrographic and X-ray investigations and the chemical analysis of the scale of alloys with 3, 6, and 13% Cr showed that the outer layers of Fe_3O_4 and FeO scale do not contain any Cr, while the inner one consists of ($FeO + FeO \cdot Cr_2O_3$); in the alloy with 16% Cr a certain amount of Cr is always present in the outer Fe_3O_4 layer; in the alloy with 30% Cr the scale has one layer which is close to Cr_2O_3 in composition. It is shown that with an increase of the Cr content from 3 to 6 and 13% the relative thickness of the layer of FeO, containing no spinel, decreases until its complete disappearance at 16% of Cr in the alloy. It was discovered that during the oxidation of the alloy with 30% Cr at $< 800^\circ$ temperatures, a selective oxidation of Cr takes place. Bibliography: 21 references. 1. Chromium-iron alloys--Scale 2. Water vapors--Metallurgical effects Card 2/2 3. Corrosion--Structural analysis 4. Corrosion--Test results G.M.

73-3-5-17/39

AUTHORS: Grinberg, A. A., Gil'dengershel', Kh. I., Sibiryakova, V. V.

TITLE: II.On the Effect of Anions of the Outer Sphere Upon the Nature of Substitution Within the Inner Sphere of Complex Compounds (II.O vliyanii anionov vneshney sfery na kharakter zameshcheniya vo vnutrenney sfere kompleksnykh soyedineniy)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol 3, Nr 5, pp 1162 - 1165 (USSR)

ABSTRACT: The interaction between the isomeric diamines of tetravalent platinum and ammonia in the presence of sulfate-and phosphate ions was investigated. The results showed that in the presence of SO_4^{2-} and PO_4^{3-} different products were obtained. Upon the action of ammonia upon $\left[(Pt\,NH_3)_5Cl\right]^{3+}$, hydroxypentamine forms in the presence of SO_4^{2-}. In the presence of PO_4^{3-} chloropentamine forms. By means of these experiments,

Card 1/2

7e-3-9-17/32

II. On the Effect of Anions Within the Outer Sphere Upon the Nature of Substitution Within the Inner Sphere of Complex Compounds

It is proved that the anions SO_4^{2-} and PO_4^{3-} direct the reaction into the inner sphere. CrO_4^{2-} also has the same effect upon the above-mentioned ammonia-cis or-trans $\left[(Pt\,NH_3)_5Cl\right]^{3+}$ system. From the obtained results, it can be seen that in the presence of SO_4-ions and CrO_4-ions the substitution process within the inner sphere is very profound. The last chlorine atom is displaced by hydroxide. The results showed that the anions within the outer sphere of a complex can cause a certain loosening in the anions of the inner sphere of a complex. There are 8 references, 7 of which are Soviet.

SUBMITTED: May 16, 1957
AVAILABLE: Library of Congress
Card 2/2

1. Complex compounds—Substitution reactions—Effects of anions

[illegible], A.A.; GIL'DENGERSHEL', Kh.I.; SIBILSKAYA, V.V.

Mixed methylamine-ammonia platinum pentammines and its acidic properties. Zhur. neorg. khim. 6 no.1:90-94 '61. (MIRA 14:2)
(Platinum compounds)

SIBIRSKIY, A.

These workers are famous for their communist work. NTO 4 no.10: 12-13 O '62. (MIRA 15:9)

1. Spetsial'nyy korrespondent zhurnala "Nauchno-tekhnicheskiye obshchestva SSSR".
(Mowcow—Metallurgical plants—Technological innovations)

SIBIRSKIY, K. S.

2801. K. PROBLEME TSENTRA. KAZAN'. 1954. 4c. 21cm. (KAZAN. GOS. UN-T IM. V. I. UL'YANOVA-LENINA). 115 EKZ. B. Ts. - (54-56174)

SO: KNIZHANAYA LETOPIS, VOL. 2, 1955

SIBIRSKIY, K. S.

FD-1184

USSR/Mathematics - Olympiad

Card 1/1 Pub. 118-25/30

Author : Itskovich, I. A., and Sibirskiy, K. S.

Title : School mathematical olympiad in the city of Kishinev

Periodical : Usp. mat. nauk, 9, No 3(61), 263-265, Jul-Sep 1954

Abstract : Beginning in the autumn of 1948, a school circle has been active in the physico-mathematical faculty of Kishinev State University; in this circle students of the senior classes in the city schools have heard lectures on mathematics, physics, astronomy, mechanics, and history of science. In the 1952/1953 academic year the students heard reports by: Prof. V. I. Kostin, Docent V. A. Andrunakiyevich, Docent A. S. Bolotin, Docent I. A. Itskovich, Aspirant K. S. Sibirskiy, senior instructor S. A. Freydkin. School olympiads have been held in 1949, 1950, 1952, and 1953. A list of problems posed for the students is given.

Institution :

Submitted :

SIBIRSKIY, K.S.

Sibirskiĭ, K. S. Spaces of measurable functions. Kišinev. Gos. Univ. Uč. Zap. 11 (1954), 49–53. (Russian)

Let f be a non-decreasing function defined on non-negative reals so that $f(0)=0$ and $f(a+b)\geqq f(a)+f(b)$ for all $a, b\geqq 0$. For each measurable function x defined on $[0, 1]$ let E_x be the set of numbers $\epsilon \geqq 0$ for which the measure of the set where $|x|>\epsilon$ is not greater than ϵ. It is shown that $\inf E_x \in E_x$ if E_x is not empty. Let X be the set of x for which E_x is non-empty; then it is verified that X is metrized by setting $\epsilon_0(x-y)$=distance from x to y. When $f=0$, X is the space M of bounded measurable functions with essential sup norm: when $f(\epsilon)=\epsilon$, then X becomes the space S of all measurable functions, and the metric is equivalent to the usual one which defines convergence in measure. In general for $f\neq 0$, X is of finite radius and convergence in it is convergence in measure.

M. M. Day (Urbana, Ill.).

SIBIRSKIY, K. S.

1

3

Sibirskiĭ, K. S. On conditions for the presence of a center and a focus. Kišinev. Gos. Univ. Uč. Zap. 11 (1954), 115–117. (Russian)

Saharnikov [Prikl. Mat. Meh. 12 (1948), 669–670; MR 10, 377] reduced the conditions for a center of

(1) $$\frac{dy}{dx} = -\frac{x+ax^2+(2b+\beta)xy+cy^2}{y+bx^2+(2c+\gamma)xy+dy^2}$$

to certain 6 algebraic relations between the coefficients. The sixth however is indirect and in terms of the coefficients of a certain linear transform of (1). The author simplifies this system and reduces it to three direct relations.

S. Lefschetz (Mexico, D.F.).

Math

Sibirsky, K.S.

1903. Sibirsky, K. S., The principle of symmetry and the problem of the center (in Russian), *Uch. zap. Kishinevsk. in-ta* 17, 27-34, 1955; *Ref. Zh. Mekh.* no. 11, 1956, Rev. 7188.

An equation is examined of the form:

$$dy/dx = -Y(x,y)/X(x,y) \qquad [1]$$

in which $X(x,y)$ and $Y(x,y)$ are functions, analytical in the vicinity of the coordinate origin, the series expansion of which commences with terms not below the first order. It is assumed that the characteristic equation

$$Q_n(\cos\varphi, \sin\varphi)\cos\varphi + P_n(\cos\varphi, \sin\varphi)\sin\varphi \; 0 \qquad [2]$$

has no real roots.

The following proposition is proved:

In order that the field of the linear elements of Eq. [1] shall be symmetrical with respect to the straight line

$$x\sin\varphi \quad y\cos\varphi \quad 0 \quad 0 \quad \varphi \qquad [3]$$

it is necessary and sufficient (and for the presence of a center in Eq. [1], sufficient) that the following identity shall be fulfilled

$$X_1^{(1)}(x_1,y_1,\varphi)Y_1^{(1)}(x_1,y_1,\varphi) = X_1^{(1)}(x_1,y_1,\varphi),\ Y_2^{(1)}(x_1,y_1\varphi) \qquad [4]$$

3

1/2

S/044/61/000/011/024/049
C111/C444

16.6500

AUTHOR: Sibirskiy, K. S.

TITLE: On the question about the solution of some systems of trigonometrical equations

PERIODICAL: Referativnyy zhurnal, Matematika, no. 11, 1961, 50, abstract 11B252. (Uch. zap. Kishinevsk. un-ta, 1960, 54, 21 - 27)

TEXT: Considered is the system of equations

$$a_1 \sin k_1\varphi + b_1 \cos k_1\varphi = 0,$$
$$a_2 \sin k_2\varphi + b_2 \cos k_2\varphi = 0,$$
$$\ldots\ldots\ldots\ldots$$
$$a_n \sin k_n\varphi + b_n \cos k_n\varphi = 0,$$

a_1, b_1, a_2, b_2,..., a_n, b_n being real numbers such that

$$\prod_{r=1}^{n} (a_r^2 + b_r^2) \neq 0,$$

k_1, k_2,..., k_n - are natural numbers, and φ is a real variable. Necessary and sufficient conditions for the compatibility of this system and a method for the determination of the solutions are given.

[Abstracter's note: Complete translation.]

Card 1/1

SIBIRSKIY, K.S.

Uniform approximation of points of dynamically limiting sets and the motions in them. Dokl. AN SSSR 146 no.2:307-309 S '62. (MIRA 15:9)

1. Institut fiziki i matematiki AN Moldavskoy SSR. Predstavleno akademikom P.S. Aleksandrovym.
(Aggregates)

SIBIRSKIY, K.S.

Uniform approximation of points and the characteristics of motions in dynamically limiting sets. Izv. AN Mold. SSR no.1:38-48 '63.

Centers with symmetry of the field of directions of a differential equation. Izv. AN Mold. SSR no.1:79-83 '63.
(MIRA 18:3)

SIBIRSKIY, K.S.

Invariants of linear representations of a group of plane rotations and the problem of the center. Dokl. AN SSSR 151 no.3:497-500 Jl '63. (MIRA 16:9)

1. Institut fiziki i matematiki AN Moldavskoy SSR. Predstavleno akademikom I.G.Petrovskim.
(Invariants) (Groups of points)

L 52513-65 EWT(d) Pg-4 IJP(c)

ACCESSION NR: AP5012018 UR/0376/65/001/001/0053/0066

19
18
B

AUTHOR: Sibirskiy, K. S.

TITLE: The number of limit cycles in a neighborhood of a singular point

SOURCE: Differentsial'nyye uravneniya, v. 1, no. 1, 1965, 53-66

TOPIC TAGS: differential equation, stability

ABSTRACT: Consider the system

$$\left.\begin{aligned} -\frac{dx}{dt} &= b_{10}x + b_{01}y + \sum_{l+l\in A'} b_{jl}x^j y^l, \\ \frac{dy}{dt} &= c_{10}x + c_{01}y + \sum_{l+l\in A'} c_{jl}x^j y^l, \end{aligned}\right\} \qquad (1)$$

where A' is a finite set of distinct positive integers none equal to 1, j and l are nonnegative integers, b_{jl}, c_{jl} are real numbers, and x, y, and t are real variables, under the assumption that the characteristic equation

Card 1/2

L 52513-65
ACCESSION NR: AP5012018

$$\begin{vmatrix} -b_{10}-\Lambda & -b_{01} \\ c_{10} & c_{01}-\Lambda \end{vmatrix} = 0 \qquad (2)$$

has imaginary roots. After defining the notion of cyclicity of order k for $\sum_0$ (in the set of coefficients satisfying (2)) by the origin O of the phase plane (XOY), and letting N(A') denote the maximal order of cyclicity which can be had by O for points $\sum_0$ satisfying (2), the author proves that if A' = {3}, then N(A') = 5, correcting an erroneous assertion of B. M. Peretyagin (DAN SSSR, 114, No. 1, 1957, 29-32) and (Uchenyye zapiski Smolenskogo ped. in-ta, vyp. 10, 1962, 67-88). Orig. art. has: 66 formulas.

ASSOCIATION: Institut matematiki s VTs AN Moldavskoy SSR (Institute of Mathematics s VTs AN Moldavian SSR)

SUBMITTED: 05Oct64 ENCL: 00 SUB CODE: MA

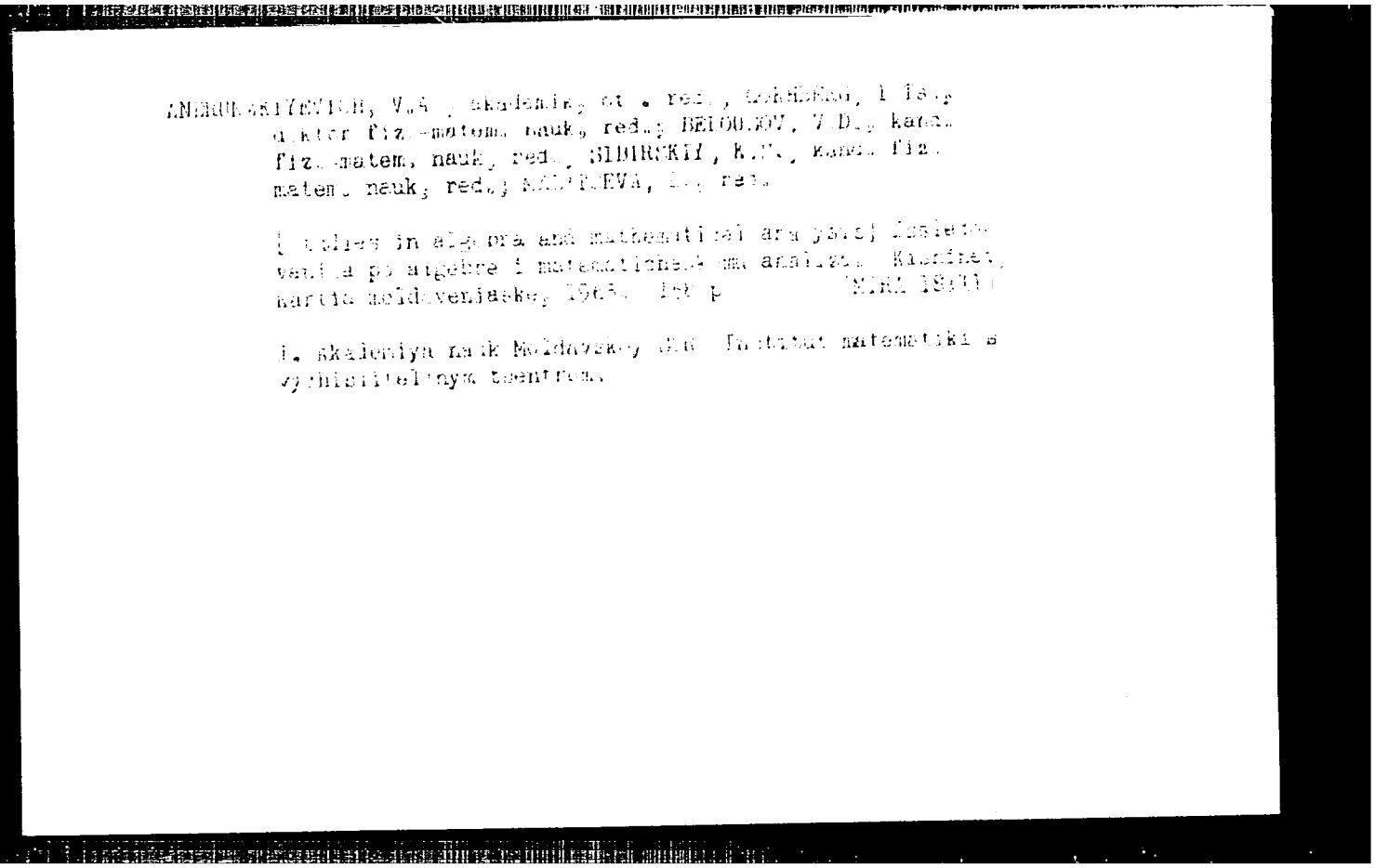
NO REF SOV: 011 OTHER: 000

LL
Card 2/2

SINISKIY, F...

Number of limit cycles arising from a focus or center type singular point. Dokl. AN SSSR 161 no.2:304-307 Mr '65. (MIRA 18:4)

1. Institut matematiki s vychislitel'nym tsentrom AN Moldavskoy SSR. Submitted October 13, 1964.



LUNKEVICH, V.A.; SIBIRSKIY, K.S.

Conditions of the center in the case of homogeneous nonlinearities of the third degree. Dif. urav. 1 no.11:1482-1487 N '65.
(MIRA 18:12)

1. Institut matematiki s Vychislitel'nym tsentrom AN Moldavskoy SSR i Kishinevskiy politekhnicheskiy institut.

SIBIRTSEV, A.I.

Grinding grain with high moisture content on the RDB-3000 hammer mill. Spirt. prom. 24 no.3:30-31 '58. (MIRA 11:6)
(Grain milling)

SIBIRTSEV, A.I.

Intensifying purification in triple-column beer rectification units. Spirt. prom. 24 no.5:34 '58. (MIRA 11:9)
(Distilling industries)

AUTHOR: Sibirtsev, A.I. SOV/71-59-2-12/26

TITLE: Repeated Utilization of Water During Production (Mnogokratnoye ispol'zovaniye vody v proizvodstve)

PERIODICAL: Spirtovaya promyshlennost', 1959, Nr 2, p 34 (USSR)

ABSTRACT: Distilleries are great consumers of water. In places where water is scarce, the question of using water as sparingly as possible, is to some plants of great interest. The Khabarovskiy spirtovoy zavod (Alcohol Plant in Khabarovsk) has designed an additional heat exchanger, consisting of a copper tube covering a surface of 50 m^2 immersed in a water reservoir as shown on the diagram. The cooling water which has been used for various purposes in the plant, is directed to this heat exchanger where it is used again for cooling the saccharified mass entering the copper pipe at 57°C. The water in the reservoir varies in temperature; entering at the bottom at 20°C, it heats up to 42°C and is then drawn off for hydraulic removal of ashes. Half way up the reservoir, the water has a temperature of 23°C, at which point it is drawn off for soak-

Card 1/2

SIBIRTSEV, A.I.

Operational experience of the Khabarovsk Alcohol Plant with the continuous cooking of raw materials. Spirt.prom. 25 no.1:43-44 '59. (MIRA 12:2)
(Khabarovsk--Distilling industries)

SIBIRTSEV, A.I.

Repeated utilization of water in production. Spirt.prom. 25 no.2:34 '59. (MIRA 12:3)
(Khabarovsk--Distilling industries)

[redacted]

Effect of vitamin E on the reproductive function in cattle.
Veterinarija 42 no.3:73-75 Mr '65.

(MIRA 18:4)

SIBIRTSEV, G.E., zasluzhennyy vrach RSFSR; BEL'SKAYA, T.G.; LAVROVA, K.V.; YANOVICH, T.D., professor, direktor; KARPOV, S.P., professor, chlen-korrespondent Akademii meditsinskikh nauk SSSR, nauchnyy rukovoditel' Tomskogo instituta vaktsin i syvorotok.

Use of specific bacteriophage in diphtheria therapy. Pediatriia no.2:22-23 Mr-Ap '53. (MLRA 6:5)

1. Tomskiy institut vaktsin i syvorotok. 2. Akademiya meditsinskikh nauk SSSR (for Karpov). (Diphtheria) (Bacteriophage--Therapeutic use)

SIBIRTSEV, N.V., zasluzhennyy vrach RSFSR

Reduction of mortality from acute surgical diseases in Vologda Province. Zdrav. Ros. Feder. 4 no. 10:20-23 O '60. (MIRA 13:10)

1. Glavnyy khirurg Vologodskogo oblzdravotdela.
(VOLOGDA PROVINCE—OPERATIONS, SURGICAL) (ABDOMEN—DISEASES)

SIBIRTSEV, N.V.

Seventieth birthday of Aleksandr Pavlovich TSvetkov, honored surgeon of the R.S.F.R. Vest.khir. no.7:141-142 '61.
(MIRA 15:1)

(TSVETKOV, ALEKSANDR PAVLOVICH, 1890-)

SIBIRTSEV, P.

Simplify the issuing of credit and the accounting for loans for private housing construction. Fin.SSSR 21 no.7: 70-74 Jl '60. (MIRA 13:7)

1. Nachal'nik otdela Cherkasskoy oblastnoy kontory Stroybanka.
(Cherkassy Province--Banks and banking--Accounting)
(Cherkassy Province—Housing—Finance)

STAROSKOL'SKIY, Aleksey Alekseyevich; KRASOVSKAYA, Yekaterina Nikolayevna; SIBIRTSEV, S.L., retsenzent; GUSEVA, Ye.M., redaktor; MEDVEDEVA, L.A., tekhnicheskiy redaktor

[Dyeing and finishing of textile and haberdashery goods] Krashenie i otdelka tekstil'no-galanterejnykh izdelii. Moskva, Gos. nauchno-tekhn. izd-vo M-va legkoi promyshl. SSSR, 1956. 187 p. (MLRA 10:5)

(Dyes and dyeing) (Textile industry)

ARKHIPOVA, T.N., starshiy nauchnyy sotrudnik; KRYUKOVA, A.S.; SIBIRTSEV, S.L.; LEZZHOVA, L.V.

Crease resistant finish for rayon staple fabrics. Tekst. prom. 18 no.11:27-33 N '58. (MIRA 11:12)

1.TSentral'nyy nauchno-issledovatel'skiy institut khlopchatobumazhnoy promyshlennosti (for Arkhipova). 2.Nauchnyy rukovoditel' gruppy Nauchno-issledovatel'skogo instituta organicheskikh poluproduktov i krasiteley im. K. Voroshilova (for Kryukova). 3.Glavnyy inzh. Pervoy sitsenabivnoy fabriki (for Sibirtseva). 4.Nachal'nik laboratorii Pervoy sitsenabivnoy fabriki Moskovskogo gorsovnarkhoza (for Lezzhova).
(Textile finishing) (Rayon)

SIBIRTSEV, S.L.

New machines, machine units and continuous production lines for textile finishing. Tekst.prom. 21 no.7:45-48 Jl '61. (MIRA 14:8)

1. Starshiy ekspert Gosudarstvennogo komiteta Soveta Ministrov SSSR po avtomatizatsii i mashinostroyeniyu.
(Textile finishing) (Textile machinery)
(Assembly-line methods)

KOR[illegible]V, [illegible] Ivan[illegible]; [illegible] Nafa[illegible]ovich; KURGIN, Yu[illegible] Mikhay[illegible]; [illegible]Y, Sergey Dmitriyevich; [illegible]A, [illegible], Konstantin Dmitriyevich; [illegible], retsenzent; [illegible], S.A., retsenzent; [illegible], G.G., retsenzent; [illegible]V, S.L., retsenzent; [illegible], Ye.N., red.

[Equipment for the finishing operations in the textile industry] [illegible] otdelochnogo proizvodstva tekstil'noi promyshlennosti. Moskva, Legkaia industriia, 1964. 417 p. (MIRA 18:1)

3(4)

AUTHOR: Sibirtsev, V. D. SOV/6-59-8-18/27

TITLE: A Nomograph for Corrections Necessitated by the Inclination of the Vertical Axis of the Instrument (Nomogramma dlya popravok za naklon vertikal'noy osi vrashcheniya instrumenta)

PERIODICAL: Geodeziya i kartografiya, 1959, Nr 8, pp 66-67 (USSR)

ABSTRACT: The corrections necessitated by the inclination of the vertical revolution axis of an instrument are introduced to the measured directions according to tables calculated by means of formula (1). Since the use of these tables is complicated a nomograph has been developed which is presented and briefly explained in this article. Formula (2) is derived, from which the scale for the correction accuracy was calculated. There is 1 figure.

Card 1/1

SIBIRTSEV, Yu.M. ; PROKPCHUK, B.I.

Recent data on the age of kimberlites of the northeastern part of the Siberian Platform in the Kuoyka Basin. Dokl. AN SSSR 148 no.2: 431-432 Ja '63. (MIRA 16:2)

1. Vsesoyuznyy aerogeologicheskiy trest. Predstavleno akademikom D.I. Shcherbakovym.
(Kuoyka Valley—Kimberlite)

SIBIRTSEVA, L.K.

Prospects of utilizing the projected Charvak Reservoir for the fishing industry. Vop.biol.i kraev.med. no.3:150-153 '62. (MIRA 16:3)

(CHARVAK RESERVOIR (PROPOSED)—FISHERIES)

[illegible], [illegible], [illegible], [illegible]

Methyltetradecanoic Acid

Synthesis of 14-methoxy-3-methyltetradecanoic acid and its analogs, initial substances for the preparation of macrocyclic ketones and lactones. Dokl. AN SSSR 84 No. 4, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. Unclassified.

SIBIRTSEVA, V.Ye.; BELOV, V.N.

Production of 2-octyn-1-ol from 1-heptyne by the Reppe method.
Trudy VNIISNDV no.4:50-52 '58. (MIRA 12:5)
(Octynol)

SIBIRTSEVA, V.Ye.; VIREZUB, S.I.; KUSTOVA, S.D.

Odorous substances from sclareol. Report No.1: Ambrial and ambroxide. Trudy VNIISNDV no.5:9-14 '61. (MIRA 14:10)
(Odorous substances) (Sclareol)

SIBIRTSEVA, V.Ye.; BELOV, V.N.

Synthesis of the methyl ester of heptenecarboxylic acid from 1-heptene by means of 2-octyn-1-ol. Trudy VNIISNDV no.5: 40-42 '61. (MIRA 14:10)

(Heptene carboxylic acid)

SIBIRTSEVA, V.Ye.; BELOV, V.N.

Acetylation of unsaturated hydrocarbons. Reaction of 1-heptyne with acetic anhydride in the presence of condensing media. Trudy VNIISNDV no.5:42-47 '61. (MIRA 14:10)
(Heptyne) (Acetylation)
(Acetic anhydride)

SIBIRTSEVA, V.Ye., inzh.; KUSTOVA, S.D., kand.khimicheskikh nauk; KOGENMAN, G.N., inzh.; MAKAKOVITSKAYA, I.S., inzh.

Industrial method of preparing ambrial (bicyclohomofarnesal). Masl.-zhir. prom. 27 no.12:31-32 D '61. (MIRA 14:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh i natural'nykh dushistykh veshchestv (for Sibirtseva, Kustova). 2. Moskovskaya kosmeticheskaya fabrika (for Kogenman, Makarovitskaya).

(Farnesal)

SIBIRTSOVA, L.K.; KISELEVA, Ye.V.; ABDULLAYEV, M.A.

Hydrobiological characteristics of the upper Zeravshan River.
Trudy UzGU no.110:97-110 '61. (MIRA 15:3)
(Zeravshan River--Hydrobiology)

USSR/General and Specialized Zoology - Insects. P.

Abs Jour : Ref Zhur - Biol., No 9, 1958, 40109

Author : Sibiryak, L.A.

Inst : Tomsk University.

Title : The Specialization in Nutrition of the Cabbage Fly (Hylemia brassicae Bouche).

Orig Pub : Tr. Tomskogo un-ta, 1956, 142, 231-236.

Abstract : The fly did not damage the mustard, the edible brown mushroom, and the shepherd's purse of the mustard family. The flies visited the crushed leaves of the cauliflower, radishes, and nasturtium more often than the leaves of Brussels sprouts and late Moscow cabbage, and did not visit the red head cabbage at all. Cabbage in the phase of four real leaves was infected by the eggs of the fly more than cabbage in the phases of two and seven leaves.

Card 1/2

BOBROV, A.R.; SIBIRYAKOV, A.A.; AKATNOV, I.N.; BIL'DE, A.E.; KOZIN, A.I., GROSMAN, I.S.; BASKAKOV, A.I.; YATSYSHIN, A.M.; TRUNOV, A.F.; KUTUZOV, N.L.; VICHIK, Ya.B.; CHUMBAROVA, A.A.; PRYAKHIN, R.I.; ZINOV'YEV, N.I.; MIKHAYLOVA, S.I.

Georgii Alekseevich Uarov. Muk.-elev.prom. 21 no.1:31 Ja '55.
(Uarov, Georgii Alekseevich, 1898-1954) (MLRA 8:5)

SIBIRYAKOV, A.N. (L'vov, ul. Iv.Franko, d.40, kv.5)

Cytological diagnosis of cervical caner [with summary in English]. Vop.onk. 2 no.3:346-349 '56. (MLRA 9:10)

1. Iz L'vovskogo oblastnogo onkologicheskogo dispansera (glavn. vrach - V.L.Kramchaninova, nauchn.rukovod. - doktor med. nauk prof. G.P.Kovtunovich)

(CERVIX NEOPLASMS, diag.
cytol., vaginal smears, statist.)
(VAGINAL SMEARS, in various dis.
cancer of cervix, statist.)

SIBIRYAKOV, A.N. (L'vov, ul. Franko, d. 40/5)

Treatment for cancer of the lip. Nov. khir. arkh. 5:48-51 S-O '58.
(MIRA 12:1)
1. L'vovskiy oblastnoy onkologicheskiy dispanser (nauchnyy rukovoditel' raboty - prof. G.P. Kovtunovich).
(LIPS--CANCER)

SIBIRYAKOV, A.N., Cand Med Sci -- (diss) "Comparative evaluation of method of cytological diagnosis of ~~cervical cancer~~." L'vov, 1959, 15 pp (Min of Health RSFSR. Kazan' State Med Inst) 250 copies (KL, 34-59, 118)

SIBIRYAKOV, A.N.

Some cases of cancer of the lip in young subjects. Khirurgiia 35 no. 11:216-217 N '59. (MIRA 14:1)
(LIPS—CANCER)

Sibiryakov, A.P.

3-3-10/40

AUTHORS: Sibiryakov, A.P., Dotsent, and Kovalenko, K.N., Dotsent

TITLE: Problems of Instruction in "Machine Parts" (Voprosy prepodavaniya kursa "Detali Mashin")

PERIODICAL: Vestnik Vysshey Shkoly, March 1957, # 3, p 48-51 (USSR)

ABSTRACT: The authors express their dissatisfaction with the organization and method of instructing the subject "Machine Parts". They point out that the various teaching plans for this subject, vary from 14 to 102 hours, and that there is a lack of correlation between the number of hours allowed for lectures and practical training. In the authors' opinion the number of hours for both types of training should correspond. They also say that the course extends over an excessive number of semesters and claim that the teaching plans are changed almost every year while the programs remain the same continuously. They ask that instructors be assigned to lead student practical training, that a manual of instruction on "Machine Parts" be prepared, and they complain about the lack of training aids for instructional purposes.

Card 1/2

ACCESSION NR: AP4045261 S/0209/64/000/008/0079/0083

AUTHOR: Petrov, V.; Sibiryakov, G.

TITLE: A typical communications session

SOURCE: Aviatsiya i kosmonavtika, no. 8, 1964, 79-83

TOPIC TAGS: space flight, space communication, space center, space probe, telemetry, guided missile, remote control, satellite

ABSTRACT: In a popular and lively form, the authors describe the operations of the communications unit of a modern space center. Step by step, with many simplifications and with pertinent technical detail largely omitted, they take the reader through an operational communications center in actual contact with an orbiting manned satellite. The spacecraft in question are not specifically mentioned, and it may be assumed that the authors are attempting to present a more or less typical, composite view of the communications aspect in modern space exploration. Special attention is directed at a simple explanation of communications requirements for the various types of space probes and flights which are currently being carried out. There is some mention of specific equipment, but with almost no technical detail or information on performance. Telemetry, guidance and control come in for brief mention. Some idea of the overall structural organization

Card 1/2

L 24805-66 FSS-2/EWT(l)/EWP(m)/EEC(k)-2/EWA(d) SCTB TT/DD/GW

ACC NR: AP6011062 SOURCE CODE: UR/0004/66/000/003/0008/0009

AUTHOR: Sibiryakov, G.

ORG: none

TITLE: To the nearest planets. When? On what ship?

SOURCE: Znaniye - sila, no. 3, 1966, 8-9

TOPIC TAGS: [redacted], Mars probe, Venus probe, deceleration parachute, [redacted], manned spacecraft, space platform, manned space flight, spacecraft reentry, soft landing, reentry equipment

ABSTRACT: Specialists studying the problem of flights to Mars and Venus are of the opinion that a landing can best be performed using parachutes rather than retroengines. During the first phase of the landing operation, a relatively small parachute will open at supersonic velocity and stabilize the ship; during the second phase, one or several large parachutes, acting together with retroengines, will ensure a soft landing. It is proposed that the second-phase parachutes be made of special heat-resistant nylon, silk, or mylar (as used in Echo 2). The flights will start from orbiting launch platforms; according to Yu. Kondratyuk's proposal — from a circumlunar platform. A manned spaceship must possess one excursion module for landing on and launching from the planet, and another module, for atmospheric reentry. The opposition of the planets has to be considered if manned flights are being planned.

Card 1/2

L 24805-66

ACC NR: AP6011062

The best launching time will be 3—4 months before the planets' opposition; considering a flight to Mars, this will be every 25.6 months. Orig. art. has: 4 figures.
[GE]

SUB CODE: 22/ SUBM DATE: none

Card 2/2

SIBIRYAKOV, G.S. (Moskva)

New diversion of American militarists. Priroda 52 no.7:109-111 Jl '63. (MIRA 16:8)
(United States--Outer space--Exploration)

(

SOV/117-59-6-32/33

AUTHOR: Sibiryakov, L.Ye., Accountant General

TITLE: A Useful Book

PERIODICAL: Mashinostroitel', 1959, Nr 6, pp 47-48 (USSR)

ABSTRACT: This is a critical review of the book "Balans v upravlenii zavodom" ("The Accounts Balance in Plant Management"), by I.A. Usatov, Mashgiz, 1958.

ASSOCIATION: Moskovskiy transformatornyy zavod (Moscow Transformer Plant)

Card 1/1

ALEKSANDROVSKIY, Andrey Petrovich; KANE, M.Yu., dotsent, retsenzent; SIBIRYAKOV, L.Ye., ekonomist, retsenzent; BOGINSKIY, M.N., inzh.-ekonom., red.; TKACHUN, A.I., red.izd-va; SMIRNOVA, G.V., tekhn.red.

[Economic control of the work of a machinery manufacturing enterprise] Ekonomicheskii kontrol' raboty mashinostroitel'nogo predpriiatiia. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1960. 263 p. (MIRA 13:12)
(Machinery industry--Accounting)

SIBIRYAKOV, L.

Increasing accountants' labor productivity. Sots. trud 5 no.12:63-70 D '60. (MIRA 14:6)

(Accounting)
(Labor productivity)

SIBIRYAKOV, Leonid Yefimovich; VEYTSMAN, N.R., prof., red.; TATUR, S.K., prof., red.; SHCHENKOV, S.A., prof., red.; IVANOV, N.N., red.; TITOV, K.M., red.; NIKOL'SKIY, A., red.; TELEGINA, T., tekhn.red.

[Accounting for the utilization of materials in production] Uchet ispol'zovaniia materialov v proizvodstve. Moskva, Gosfinizdat, 1961. 81 p. (MIRA 15:4)
(Accounting) (Materials)

ARTEMOV, Yu.M., kand. ekonom. nauk; GAL'PERIN, N.S., kand. ekon. nauk; GUBIN, B.V., kand. ekon. nauk; ZHUKOV, V.N., kand. ekon. nauk; OCHKOV, M.S. kand. ekon. nauk; OSKORDOV, V.P., starshiy ekonomist; BARNGOL'STS, S.B., dotsent, kand. ekon. nauk; SIBIRYAKOV, L.Ye.; IVANOV, N.N.; RABINOVICH, M.A., ekspert; LIPSITS, V.B., kand. ekon. nauk; VOLKOV, S.I., kand. ekon. nauk; KOROLEVA, Ye.P., aspirantka; RYUMIN, S.M., red.; SUBBOTINA, K., red.; TELEGINA, T., tekhn. red.

[Planning and calculating the cost of industrial production] Voprosy planirovaniia i kal'kulirovaniia sebestoimosti promyshlennoi produktsii. Moskva, Gosfinizdat, 1961. 183 p. (MIRA 14:8)

1. Moscow. Nauchno-issledovatel'skiy finansovyy institut. 2. Sotrudniki Nauchno-issledovatel'skogo finansovogo instituta (for Artemov, Gal'perin, Gubin, Zhukov, Ochkov, Oskordov). 3. Vsesoyuznyy zaochnyy finansovo-ekonom. institut (for Barngol'ts). 4. Glavnyy bukhgalter Moskovskogo elektrozavoda (for Sibiryakov). 5. Starshiy konsul'tant Upravleniya bukhgalterskogo ucheta Ministerstva finansov SSSR (for Ivanov, Rabinovich). 6. Nachal'nik podotdela obshchikh ekonomicheskikh voprosov tsenoobrazovaniya Byuro tsen pri Gosplane SSSR (Lipsits). 7. Moskovskiy ekonomiko-statisticheskiy institut (for Koroleva)

(Costs, Industrial)

SIBIRYAKOV, M. A. Col. of Med. Ser.

"BASIC PROBLEMS IN HYGIENIC SERVICE TO THE TROOPS DURING THE FIELD TRAINING".

Voyenno-meditsinskiy zhurnal No. 8, 1955, pp. 48-52.

The author speaks of the effect of heavy load and physical stress, clothing, water drinking, snaitation, and other related matters of importance during hikes and field exercises.

Translation-D527584.

SIBIRYAKOV, M.A., polkovnik meditsinskoyslushby, kandidat meditsinskikh nauk

Sanitary and bacterilogical examination of water and food. Voen.-med.zhur. no.9:49-54 S '56. (MLRA 10:3)
(WATER--BACTERIOLOGY)
(FOOD ADULTERATION AND INSPECTION)

RATGAUZ, L.G.; SIBIRYAKOV, M.A.

Fifteenth session of the Academy of Medical Sciences of the USSR. Voen.-med.zhur. no.9:90-93 S '61. (MIRA 15:10)
(MEDICINE)

86-8-21/22

AUTHOR: Sibiryakov, S.N. Col.

TITLE: A Book Review: "Airplane Crew in Deserted Area after Forced Landing", (Deystviya ekipazha samoleta v bezlyudnoy mestnosti) by N.K. Pyneyev, retired Maj. General of the Soviet Air Force, Moskva, 1957, published by the Ministry of Defense, USSR.

PERIODICAL: Vestnik Vozdushnogo Flota, 1957, Nr 8, pp.90-91 (USSR)

ABSTRACT: The reviewer starts with the following description of the author of the book: Maj. General N.K. Pyneyev, retired, served in Aviation more than 30 years. During the war he was chief of staff of the Air Army, and afterwards he served for a long time on the General Staff of the Soviet Air Force. Now, being in retirement, N.K. Pyneyev writes and edits books and actively participates in social work. Quite recently he was elected chairman of the Historical Section of the House of Aviation [and also of the Anti-aircraft Defense] which bears the name of Frunze. Further, the critic gives the following characteristic of the book: It comprises an introduction and 4 parts [195 pages]. The subject of the book is the possible action of the airplane crew after a forced landing, or parachuting in

Card 1/5

A Book Review: "Airplane Crew in Deserted Area after Forced Landing" (Cont.)

deserted area, far from inhabited regions and airfields, and also after forced landing or parachuting on the sea. The book also deals with the problems of search and rescue operations of an aircraft after it failed to return to its airfield. The reviewer asserts that this is the first book of this kind in Soviet Aviation Literature and it supplies the basic minimum useful information on the subject for flying personnel. In particular, the book describes the preparation of the crew before a forced landing or abandonment of the airplane and the action after landing. Even though the author of the book repeats some regulations already established by instructions concerning forced landing operations and parachute landing, the reviewer considers it useful because the commentaries of the author contain many practical suggestions. In a condensed form, the author of the book clearly presents, according to the critic, the methods of orientation in the terrain and establishing communication with the airfield, after forced landing. Analyzing the cases of forced landing or abandonment of the airplane in the Arctic, the Tayga, or in wooded,

A Book Review: "Airplane Crew in Deserted Area after Forced Landing" (Cont.)

swampy, deserted and mountainous areas, the author of the book supplies many practical and useful recommendations as to the possibilities of survival for the crew. The author of the book separately describes the cases of forced landing or parachuting on the sea. The book includes a chapter which deals with the search and rescue operations undertaken by the command in case of failure of the airplane to return to its airfield. It describes the methods of the search by airplanes and by ground search parties. The reviewer believes that the book is edited handsomely and contains a large number of illustrations, which facilitate the reading of the text. But, says the reviewer, the book also contains a series of shortcomings, which are as follows: It is not correct to suggest that the crew of the airplane, before forced landing or parachute jump, should in all cases report to the air commander and await orders from him. This may be advisable under conditions of flight close to the airfield, or over the territory of a district, but not in a long distance flight. According to the reviewer the crew in disaster should send a distress signal to the nearest air force command post

Card 3/5

A Book Review: "Airplane Crew in Deserted Area after Forced Landing" (Cont.)

which controls or surveys the flight. Another shortcoming, according to the reviewer, is the author's recommendation with regard to the amount of equipment which a crew in distress should carry before the forced landing or abandonment of the aircraft. The reviewer believes that this amount is exaggerated and will be a hindrance, particularly in the case of an ejection seat parachute jump. The signals of distress recommended by the author of the book [by signal panels, parachute canopy and by movement of the body] should be avoided [in the opinion of the reviewer] because these signals are uniform for all aviation and are already established by competent authorities, which control flights over the territory of the USSR. In the chapter: "Forced Landing and Parachuting on Sea" the author of the book disregards such necessary problems as the order of airdrop of rescue equipment, on the basis of the calculation of the wind and drift, as the methods of directing ships and cutters to the place of disaster by the airplanes of the rescue service, and also the methods by which the areas of water covered by flaming fuel can be avoided. In the

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A Book Review: "Airplane Crew in Deserted Araa after Forced Landing" (Cont.)

chapter which deals with the search service, the author omitted the radio aids which can considerably increase the effectiveness of search service. Consequently, he indicates only the altitude of observation (500-600 m for airplanes, and 200-300 m for helicopters) necessary for visual search, whereas the altitude for search with radio aids must be at least 1000 m, and with increase of this altitude, the radius of search operations will also be considerably increased. Finally, the reviewer reproaches the author of the book for the errors in terminology [according to the reviewer, in the Soviet terminology the term "base" belongs rather to the navy, not to aviation], inaccurate explanation of the Gulf Stream currents and serious stylistic blunders. However, in total, says reviewer - the book is useful.

ASSOCIATION: Frunze House of Aviation [and Antiaircraft Defense], Historical Section.

AVAILABLE: Library of Congress

Card 5/5

SOV/147-59-2-9/20

AUTHOR: Sibiryakov, V.A.

TITLE: Solution of Orthotropic Conical Shells Under an Arbitrary External Loading by the Method of V.Z.Vlasov (Raschet ortotropnoy konicheskoy obolochki na proizvol'nuyu vneshnyuyu nagruzku po metodu V.Z.Vlasova)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Aviatsionnaya tekhnika, 1959, Nr 2, pp 72-82 (USSR)

ABSTRACT: The aim of this paper is to obtain equations giving the stresses of the elastically strained and deformed conical shells, such as are used for the nose of a rocket, for the case of non-axi-symmetrical types of loading. Using cylindrical coordinates, as shown in Fig 1, the equations of equilibrium of an element of the shell are given by Eq (1) - see Ref 1 - where:
z and θ - the cylindrical coordinates;
$r = kz$ - the radius of the cross-section of the shell;
$k = \tan \alpha$ - tangent of the semi-vertical angle;
$A = \sqrt{1 + k^2}$ - coefficient;
N_1 and N_2 - elastic normal loadings;

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S and M_2 - tangential loading and bending moment, respectively;

Q_1 and Q_2 - shearing forces;

X, Y and Z - components of the full load vector - the positive sense of the loads and deformations is indicated in Fig 2.

Following Ref 2, these equations are transformed by a substitution $z = z_0 e^{kt}$ to Eq 2. Relating now stresses and strains (Eq 3) and expressing the strains as components of the total deformation vector (Eq 4) and considering the cases when shear deformation is absent Eq (5) and (6) are obtained, which with the additional condition $\varepsilon_2 = 0$ lead to Eq (8), being the differential equation for displacement. This is solved by successive approximations, the results being expressed by Bessel functions with complex arguments (Thompson functions) Eq (13) to (16). Some examples are then solved taking the external loading as shown in Fig 3 and the conical shell as shown

Solution of Orthotropic Conical Shells Under an Arbitrary External Loading by the Method of V.Z.Vlasov

in Fig 4. Only the secondary stresses are considered, further approximations being shown by preliminary analysis to be unnecessary. In the first example, the shell is considered to be a cantilever fixed at the right (butt) end and closed at the left end by a diaphragm. Figures 5 and 6 give the results of the computations. In the second example, the shell is the same but at the free end there is either rigid rib, but with poor bending characteristics, or a massive tip welded to the shell. Figures 7 and 8 give the results of computations for this case. In conclusion it is shown that the distribution of normal stresses along a generator agrees qualitatively with the results obtained by V.F.Kut'inov (Ref 4) for a

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caisson of small conicity. There are 8 figures and 5 Soviet references.

ASSOCIATION: Moskovskiy aviatsionnyy institut, Kafedra stroitel'noy mekhaniki samoleta (Moscow Institute of Aeronautics, Chair of Theory of Aircraft Structures)

SUBMITTED: January 5, 1959

SIBIRYAKOV, V. A., Cand Tech Sci -- (diss) "Calculation of orthotropic shells under the effect of temperature and arbitrary external load." Moscow, 1960. 9 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Order of Lenin Aviation Inst im Sergo Ordzhonikidze); 160 copies; price not given; (KL, 17-60, 159)

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S/147/60/000/01/009/018
E031/E535

AUTHOR: Sibiryakov, V.A.

TITLE: The Determination of the Temperature Stresses in a Conical Shell

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Aviatsionnaya tekhnika, 1960, Nr 1, pp 72-82 (USSR)

ABSTRACT: At the basis of the calculation is the idea of Professor V. Z. Vlasov that the internal stresses in a thermoelastic free shell can cause only that part of the temperature loading which corresponds to the bimoment state of the shell. The following assumptions are made: 1) deformation takes place in the elastic domain; 2) general and local losses of stability are absent; 3) Young's modulus and the coefficient of linear expansion of the material are constant; 4) the temperature through the thickness of the shell is constant; 5) the law of heating of the sections along the length of the shell is unchanged, only the "amplitude of heating" changes. The stressed and deformed state of an orthotropic conical shell is determined on the basis of the semimomentless shell theory.

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E031/E535

The Determination of the Temperature Stresses in a Conical Shell

The equilibrium equation and Hook's law are supplemented by equations relating the full deformation with the components of the vector of the full displacement and equations linking the full elastic and temperature deformations, in accordance with F. Neyman's hypothesis. The equations are simplified if the assumption is made that the contour of the transverse section of the shell is inextensible. Trigonometric series are assumed for the forces, moments, displacements and the temperature. In this way the partial differential equations reduce to a single fourth order ordinary differential equation, which is solved by the method of successive approximations. Since an error occurred in the earlier paper (Ref 3), the full system of equations for the constants of integration are given. The distribution of the normal stresses along the generator for which θ (cylindrical coordinate) is zero is considered for various

Card 2/3 temperature distributions. The effect of the

3(2)

S/140/62/000/004/008/009
C111/C333

AUTHOR: Sibiryakov, V. A.

TITLE: On the solution of a differential equation with variable coefficients

PERIODICAL: Vysshiye uchebnyye zavedeniya. Izvestiya. Matematika, no. 4, 1962, 143-145

TEXT: In order to solve the equation

$$\frac{d^4v}{dt^4} - (k^2 + be^{-2kt})\frac{d^2v}{dt^2} + ae^{-2kt}v = 0 \qquad (1)$$

appearing in the theory of the conic basins, one writes down the auxiliary equation

$$v_n^{IV} - k^2 v_n'' = + (bv_{n-1}'' - av_{n-1})\, e^{-2kt} \qquad (2)$$

and puts its right linear part equal to zero. Out of this comes the initial approximation v_0 for the general solution

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$v = \sum_{i=1}^{4} c_i F_i$ of (1). This v_0 is substituted into the right hand, and corresponding particular solution of (2) gives together with v_0 the next approximation for v. This way one states that there is

$$F_1 = 1 + \sum_1^\infty \frac{(-1)^n p^{4n} e^{-2nkt}}{2n!\,(2n+1)!} \prod_1^n H_1^{2m-2},$$

$$F_2 = \frac{p^4}{2}(1-r)\left\{e^{-kt} + 2\sum_1^\infty \frac{(-1)^n p^{4n} e^{-(2n+1)kt}}{(2n+1)!\,(2n+2)!} \prod_1^n H_1^{2m-1}\right\},$$

$$F_3 = ktF_1 + \sum_1^\infty \frac{(-1)^n p^{4n} e^{-2nkt}}{2n!\,(2n+1)!} \left[\sum_1^n \frac{I_2^{2n}}{I_1^{2n}} \cdot \prod_1^n H_1^{2m-2}\right] +$$

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On the solution of a differential . . .

$$+4r\sum_{2}^{\infty}\frac{(-1)^n p^{4n} e^{-2nkt}}{2n!(2n+1)!}\sum_{2}^{n}\frac{(n-1)}{H_1^{2n-2}}\cdot\prod_{2}^{n}H_1^{2m-2},$$

$$F_4 = ktF_2 + e^{kt} + (1-r)\sum_{1}^{\infty}\frac{(-1)^n p^{4(n+1)} e^{-(2n+1)kt}}{(2n+1)!(2n+2)!}\times$$

$$\times\left[\sum_{1}^{n}\frac{I_2^{2n+1}}{I_1^{2n+1}}+2r\sum_{1}^{n}\frac{(2n-1)}{H_1^{2n-1}}\right]\prod_{1}^{n}H_1^{2m-1}.$$

where the notations

$$I_1^m = \frac{1}{m^2(m^2-1)},\quad I_2^m = \frac{2(2m^2-1)}{m^3(m^2-1)^2},\quad H_1^m = (1-m^2r),\quad r=\frac{bk^2}{a},\quad p^4=\frac{a}{k^4}\qquad (4)$$

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On the solution of a differential ... S/140/62/000/004/008/009
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are used. If b = 0, then the F_i can be represented by Thomson functions.

ASSOCIATION: Moskovskiy aviatsionnyy institut im. S. Ordzhonikidze
(Moscow Aviation Institute im. S. Ordzhonikidze)

SUBMITTED: July 29, 1959

Card 4/4

109-7-17/17

AUTHOR: Bershteyn, I.L. and Sibiryakov, V.L.

TITLE: Phase Method of Stabilization of Micro-wave Oscillators. (Fazovaya stabilizatsiya mikrovolnovykh generatorov) (Letter to the Editor)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol.II, No.7, p. 944 (USSR).

ABSTRACT: An experimental investigation of a klystron generator operating at 3.3 cm wavelength was carried out. The source of the stabilising oscillations was a quartz crystal oscillator with a frequency-multiplier operating at 450 Mc/s. The twentieth harmonic of this frequency was used to produce 60 Mc/s beats with the klystron frequency. The beats were amplified and then combined in a balanced detector with a separate local oscillator operating at 60 Mc/s. The output voltage of the balanced detector was amplified and applied to the reflector of the klystron. The above system permitted the stabilisation of the klystron over a frequency range of about 5 Mc/s. The power of the stabilising signal was about 0.4 μW. There are 2 references, 1 of which is Slavic.

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SIBIRYAKOV V.L.

AUTHORS: Bershteyn, I.L. and Sibiryakov, V.L. 109-3-2-21/26

TITLE: Phase-type Automatic Frequency Adjustment in Microwave Oscillators (Fazovaya avtopodstroyka chastoty generatorov santimetrovykh voln)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol.III, No.2, pp. 290 - 291 (USSR)

ABSTRACT: The problem was investigated experimentally by means of the equipment shown in the figure on p.290. This employed a quartz stabilised oscillator operating at 75 Mc/s; this was followed by two frequency multiplier stages producing a frequency of 450 Mc/s. The resulting signal was applied to a germanium diode and its twentieth harmonic, having a frequency of 9 000 Mc/s, was used as the standard synchronisation signal. The synchronising power was of the order of 1 μW and the frequency of the synchronised klystron was about 75 Mc/s lower than that of the standard. The standard signal and the klystron oscillations were applied to the input of a balanced detector; an intermediate frequency of 75 Mc/s, obtained at the output of the detector, was amplified and applied to another balanced detector, where it was mixed with the frequency of the quartz oscillator. The detector was followed by a single-stage video-amplifier, whose output was applied to the reflector

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